BARRAMBIE PROJECT UPDATE

HIGHLIGHTS

- **High purity titanium dioxide hydrolysate produced from recent Barrambie pilot trial**
- **Trial successfully recovered titanium at high rates (90%) from Barrambie concentrate feedstocks**
- **Results are being evaluated by potential JV partner IMUMR and titanium hydrolysate samples are being evaluated by multiple Chinese titanium pigment producers**
- **Barrambie Ministerial Approval renewed and Mining Proposal approved**

Project developer, Neometals Ltd (ASX: NMT) ("**Neometals**" or "**the Company**"), is pleased to provide an update on its Barrambie Titanium and Vanadium Project ("**Barrambie**"). The Company has successfully produced high purity (>98%) titanium hydrolysate (hydrated titanium dioxide - $TiO_2.2H_2O$) from the titanium recovery stage of its Australian pilot plant trial ("**Titanium Pilot**"). Importantly, titanium recovery from Barrambie concentrate exceeded 90%. The batch Titanium Pilot results confirm the technical feasibility of Neometals' process at pilot scale for the production of a high purity intermediate (hydrolysate) used in the titanium pigment process.

The Barrambie resource contains high-grade ilmenite intergrown with a vanadium-bearing magnetite (iron) and, as demonstrated, the Neometals process flowsheet can produce a superior intermediate feed material that is safer, cleaner and cheaper to produce titanium pigment from. In addition, the Barrambie titanium hydrolysate has very favourable morphology and chemical properties that offer numerous cost and quality advantages for the titanium pigment industry. Further upside in this flowsheet for Barrambie is the recovery of the accessory vanadium and iron in a saleable form.

The Titanium Pilot is the first key evaluation milestone under the memorandum of understanding ("**MOU**") with Chinese metallurgical group, IMUMR (*see Neometals ASX release dated 4th October 2019*). Pursuant to the MOU, if IMUMR funds the demonstration plant program at its extensive research facilities in China, and both parties agree to jointly fund a formal evaluation study for a mining and concentrating operation at Barrambie with subsequent downstream processing in China, the parties may negotiate in good faith the terms of a 50:50 production JV. IMUMR has the right (subject to Neometals approval) to assign its interests under the MOU to a commercial Chinese chemical processing partner.

Samples of titanium hydrolysate have been freighted for evaluation by prospective concentrate offtake customers, being titanium pigment producers within and outside of China.

The next evaluation step is the recovery and production of a vanadium by-product from the primary leaching stage of the Titanium Pilot Plant (see Figure 1). In parallel, Neometals is preparing approximately 10 tonnes of gravity and magnetic concentrates from the high titanium grade Eastern Band for the proposed Chinese demonstration plant trial. The vanadium test work and concentrates shipment should be completed by the end of the March Quarter 2020.

Neometals Managing Director Chris Reed commented:

"We are confident our flowsheet can produce the highest value-in-use for potential customers and recover maximum value from the deposit for Neometals and its partners. Proving an ore can be concentrated and converted to high purity chemicals at good recoveries is the first step in attracting quality offtakers to enable the development of globally significant industrial mineral projects, whether they be lithium or titanium. The outcomes to date bode well for advancing our commercialisation plans in 2020."

ACN 099 116 361
Level 1, 1292 Hay Street
West Perth WA 6005

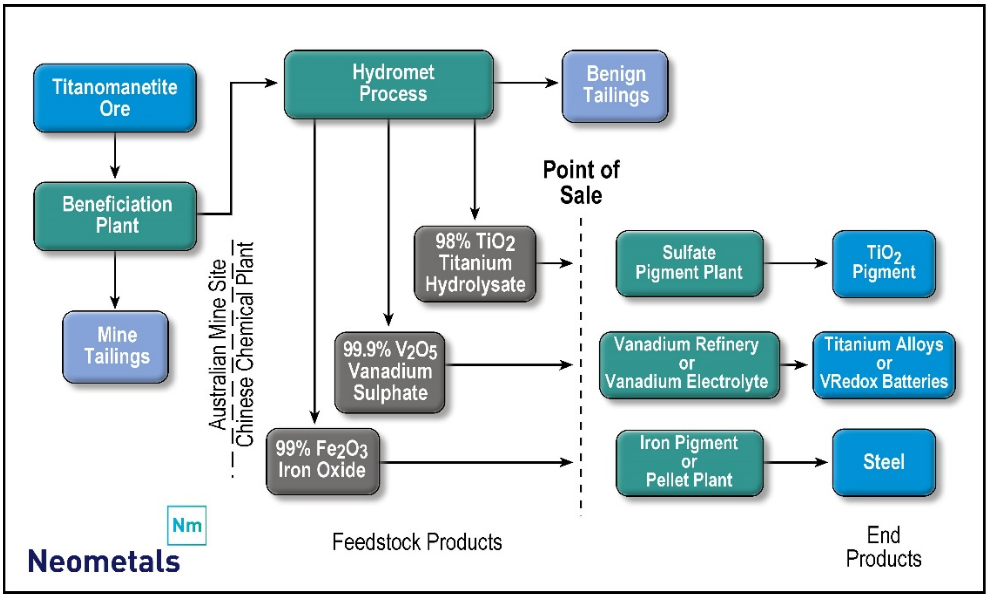
Locked Bag 8
West Perth WA 6872

T: +61 8 9322 1182
F: +61 8 9321 0556

info@neometals.com.au
neometals.com.au

TECHNICAL SUMMARY

Pilot test-work aims to prove at scale the optimal beneficiation and hydrometallurgical process flowsheets to capture the value of both titanium and vanadium in the Barrambie concentrates. A high-level view process flowchart is shown below:



The hydrometallurgical process flowsheet consists of two stages of leaching. Firstly, selective primary leaching produces a vanadium-rich solution for the subsequent recovery of vanadium by-products (leaching conducted at Neometals Montreal laboratory). The solid or 'leach residue' from filtering the primary leach solution, containing > 99% of the titanium values, is re-leached in a secondary leach step which produces a titanium-rich solution. Titanium hydrolysate is then produced via selective precipitation under mild conditions which recovers ~90% of the titanium contained in the original primary leach feed. Titanium hydrolysate is produced in a manner that ensures it has very favourable acid digestion properties making it an attractive intermediate feed material for sulphate or chloride titanium pigment producers.

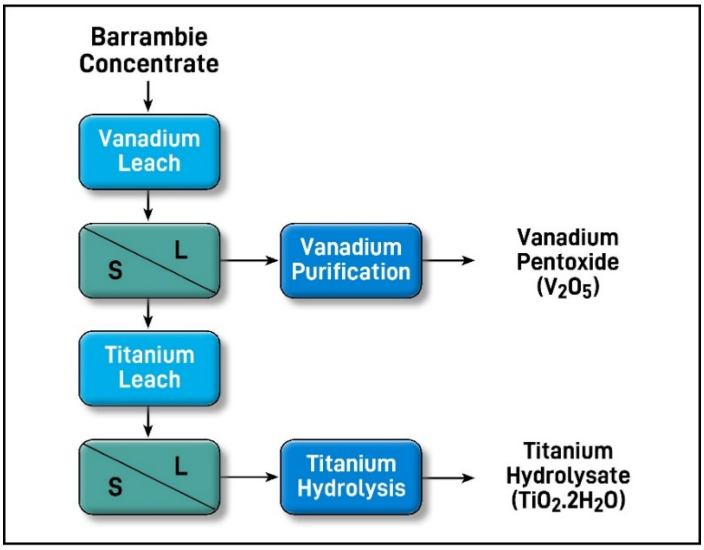


Figure 1 - *High level view of the hydrometallurgical process*

Figure 2 – *Neometals Titanium leach and hydrolysate production reactors at Strategic Metallurgy, Perth*

PERMITTING

Neometals has received a five-year extension to its Ministerial Approval 911 to develop a fully integrated mine, concentrator and chemical processing facility. It has also received approval of a Mining Proposal for a ~1Mtpa mining, crushing and screening operation. Neometals' strategy is to have Barrambie development ready as it enters the final stage of demonstrating the significant value-in-use of its Barrambie mineral concentrates to the largest titanium pigment market, China.

NEXT STEPS

Bulk beneficiation test work involving both gravity and magnetic separation technologies is being undertaken at ALS (Australian Laboratory Services) and AML (Allied Mineral Laboratories) in Perth. This work continues as Neometals prepares to send 10 tonnes of Barrambie Eastern Band concentrate to the IMUMR research facilities in China, to feed the proposed demonstration plant. In addition to titanium hydrolysate samples, concentrates are also being prepared for evaluation by potential offtake parties.

Neometals plans to commence a Class 4 Engineering Cost Study ("ECS") utilising results from the current piloting work with completion expected in the September Quarter 2020. The results of the study and the demonstration plant will be used to consider proceeding to a Class 3 ECS which would form the basis for IMUMR/Neometals to make an investment decision on a fully-integrated titanium chemical business. Evaluation activities are expected to be complete by mid-2021.

Figure 3 – *Professor Zhang (IMUMR) and Darren Townsend (Neometals) during the piloting campaign and a filter sample of the product hydrolysate made during this visit.*

ENDS

COMPETENT PERSONS STATEMENT

Metallurgy

The information in this report that relates to metallurgical test work results is based on information compiled and / or reviewed by Mr Gavin Beer who is a Member and Chartered Professional of The Australasian Institute of Mining and Metallurgy. Mr Gavin Beer is an employee of the Company and has sufficient experience relevant to the activity which he is undertaking to be recognised as competent to compile and report such information. Mr Gavin Beer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Authorised on behalf of Neometals by Christopher Reed, Managing Director

For further information, please contact:

Chris Reed
Managing Director
Neometals Ltd
T: +61 8 9322 1182
E: info@neometals.com.au

Jeremy Mcmanus
General Manager - Commercial and IR
Neometals Ltd
T: +61 8 9322 1182
E: jmcmanus@neometals.com.au

About Neometals Ltd

Li + Ti = Nm

Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future. With a focus on the energy storage megatrend, the strategy focuses on de-risking and developing long life projects with strong partners and integrating down the value chain to increase margins and return value to shareholders.

Neometals has three core projects:

- Lithium-ion Battery Recycling – a proprietary process for recovering cobalt and other valuable materials from spent and scrap lithium batteries. Pilot plant testing currently underway with plans established to conduct demonstration scale trials with potential JV partner SMS Group;
- Barrambie Titanium and Vanadium Project - one of the world's highest-grade hard-rock titanium-vanadium deposits, working towards a development decision in mid-2021 with potential JV partner IMUMR; and
- Lithium Refinery Project – progressing plans for a lithium refinery development to supply lithium hydroxide to the battery cathode industry with potential JV partner Manikaran Power, underpinned by a binding life-of-mine annual offtake option for 57,000 tonnes per annum of Mt Marion 6% spodumene concentrate.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Metallurgical drilling comprises 20 PQ core holes. Core was ¼ cut for assaying in 1-meter lengths.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Metallurgical drilling was conducted by PQ drilling technique.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• A quantitative logging code was used to record recovery for the recent RC and DD drilling. Recovery of samples is considered to be good.

Criteria	JORC Code explanation	Commentary
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Geological logging of core and rock chips was carried out recording lithology, major minerals, oxidation, colour, texture, mineralisation, water and recovery. The logging was carried out in sufficient detail to meet the requirements of resource estimation and mining studies.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All samples were dried, crushed to approximately 2mm, split and pulverized.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• No field QAQC data was conducted by Neometals. Intertek Genalysis conducted their own internal QAQC, with no issues being reported.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Data was recorded in the field on paper logs and transferred to individual .xls files prior to merging with project database. No twin holes were drilled and no verification of significant intersections by independent laboratories has been undertaken.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill collar and azimuth were pegged in the field using GDA94 system by independent surveyors.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Metallurgical holes were spaced at 50m intervals along the strike of the Barrambie mineralisation.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Metallurgical holes were drilled within the plane of the Barrambie mineralisation.
Sample security	• *The measures taken to ensure sample security.*	• Samples were stored onsite and transported to the laboratory on a regular basis by Neometals employees.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of sampling techniques and data have been conducted.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Barrambie mineralisation is within 100% owned granted mining lease M57/173 in the Eastern Murchison Goldfields. No known impediments exist in the area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• No relevant exploration has been completed by other parties to acknowledge or appraise at this time.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The ferrovanadium titanium (Ti-V-Fe) deposit occurs within the Archaean Barrambie Greenstone Belt, which is a narrow, north-northwest to south-southeast trending greenstone belt in the northern Yilgarn Craton. The linear greenstone belt is about 60 km long and attains a maximum width of about 4 km. It is flanked by banded gneiss and granitoids. The mineralisation is hosted within a large layered, mafic intrusive complex (the Barrambie Igneous Complex), which has intruded into and is conformable with the general trend of the enclosing Greenstone Belt. From aeromagnetic data and regional geological mapping, it appears that this layered sill complex extends over a distance of at least 25 km into tenements to the north and south of M57/173 that have been acquired by Neometals. The layered sill varies in width from 500 m to 1,700 m. The sill is comprised of anorthositic magnetite-bearing gabbros that intrude a sequence of metasediments, banded iron formation, metabasalts and metamorphosed felsic volcanics of the Barrambie Greenstone Belt. The metasediment unit forms the hanging-wall to the layered sill complex. Exposure is poor due to deep weathering, masking by laterite, widespread cover of transported regolith (wind-blown and water-borne sandy and silty clay), laterite scree and colluvium. Where

Criteria	JORC Code explanation	Commentary
		remnant laterite profiles occur on low hills, there is ferricrete capping over a strongly weathered material that extends down to depths of 70 m. Ti-V-Fe mineralisation occurs as bands of cumulate aggregations of vanadiferous magnetite (martite)-ilmenite (leucoxene) in massive and disseminated layers and lenses. Within the tenement the layered deposit has been divided into five sections established at major fault offsets. Cross faults have displacements that range from a few metres to 400 m. The water table occurs at about 35 m below the surface (when measured where the laterite profile has been stripped).
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• No exploration results being reported. Exploration results can be found in previous public reports.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No exploration results being reported. Exploration results can be found in previous public reports.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• There are no new exploration results to report. For past news releases of exploration results, all holes drilled at an angle of 60° from the horizontal toward grid east or west, depending on the apparent dip of mineralised bands. All depths and intercept lengths are down-hole distances and not intended to represent the true width of high-grade bands. Metallurgical holes were drilled within the plane of the mineralisation (i.e. down-dip) and therefore do not reflect the true width of the orebody.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• All appropriate maps (with scales) and tabulations of survey parameters are reported.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Due to size of the drill hole database, it is not practicable to report all drilling results. Cut-off grade for reporting is a natural well-defined boundary for the higher-grade massive magnetite bands that will be the principal target for selective mining of the deposit.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Only drill hole data used for resource calculation purposes.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Limited ongoing exploration work is planned in the Barrambie area.